

CLAIM(S) :

1. A read apparatus comprising:

a read unit for reading reflected light of light beam irradiated on a disk; and

5 an adjust unit for adjusting the read unit in correspondence with a result of reading by the read unit,

further comprising:

a deterioration detecting unit for detecting deterioration of the disk in accordance with an adjust value of the read unit,
10 which is adjusted within adjustable range of the adjust unit.

2. The read apparatus according to claim 1, wherein the read unit includes an optical pick-up to irradiate the disk, and the adjust unit to adjust the optical pick-up.

3. The read apparatus according to claim 2, wherein the optical
15 pick-up includes an objective lens for converging the light beam on the disk, and the adjust unit adjusts a position of the objective lens in a direction of moving close to and apart from the disk so as to converge the light beam on the disk.

4. The read apparatus according to claim 2 or 3, wherein the
20 optical pick-up includes an objective lens for converging the light beam on the disk, and the adjust unit adjusts a position of the objective lens in a direction of a radius of the disk so as to make the light beam follow a track on the disk.

5. The read apparatus according to any one of claims 2-4,
25 wherein the adjust unit adjusts a quantity of light of the light beam to be irradiated so as to make the reflected light of the

light beam constant.

6. The read apparatus according to any one of claims 1-5, wherein the read unit read the reflected light to convert the reflected light to an electric signal, and the adjust unit
5 adjusts a gain of amplification of the electric signal.

7. The read apparatus according to any one of claims 1-6, further comprising a recording unit for recording past data of the adjust values of the read unit by the adjust unit, wherein the deterioration detecting unit detects the deterioration of
10 the disk by comparing the past data of the adjust values the read unit and the adjust value of the read unit, which is adjusted within adjustable range of the adjust unit.

8. The read apparatus according to claim 7, wherein the deterioration detecting unit does not detect the deterioration
15 of the disk until the past data of the adjust values more than a predetermined quantity is recorded.

9. The read apparatus according to claim 7 or 8, the deterioration detecting unit defines a reference adjust value based on the past data of the adjust values and detects the
20 deterioration of the disk by a differential value of the reference value and the adjust value of the read unit.

10. The read apparatus according to any one of claims 1-9, further comprising a notifying unit to notify that the deterioration detecting unit detects the deterioration of the
25 disk.

11. A method of detecting deterioration of a disk, by using

a read apparatus comprising a read unit for reading reflected light of light beam irradiated on a disk and an adjust unit for adjusting the read unit in correspondence with a result of reading by the read unit, comprising a step of detecting
5 deterioration of the disk in accordance with an adjust value of the read unit, which is adjusted within adjustable range of the adjust unit.